

Liang Zheng

Nationality: China
Information Systems Technology and Design pillar
Singapore University of Technology and Design
8 Somapah Road Singapore 487372

Date of Birth: 11 Jun 1987
Phone: +65 84036274
Email: zheng_liang@sutd.edu.sg
Homepage: <http://www.liangzheng.com.cn/>

Education

2010.8-2015.7 Ph.D. Electronic Engineering, Tsinghua University
Outstanding Ph.D. Thesis by Chinese Association of Artificial Intelligence

2006.8-2010.7 B.S. School of Life Science, Tsinghua University
Outstanding Graduate in Tsinghua University and Beijing

Professional Appointments

2018.4- Singapore University of Technology and Design Assistant Professor

2016.5-2018.3 University of Technology Sydney Postdoctoral Research Associate

2015.9-2016.4 University of Texas at San Antonio Postdoc Researcher

2014.12-2015.7 Microsoft Research Intern

Teaching Record

Research Papers Selected into Computer Science Courses

CS231n Stanford University
Packing and Padding, Coupled Multi-index for Accurate Image Retrieval.

CS381V University of Texas at Austin
MARS: A Video Benchmark for Large-Scale Person Re-identification.
Person Re-identification in the Wild.
SIFT Meets CNN: A Decade Survey of Instance Retrieval.

Signal and Image processing Hanoi University of Science and Technology
MARS: A Video Benchmark for Large-Scale Person Re-identification

Course Teaching

2018 50.002 Computation Structures Undergraduate course

2018 01.112 Machine Learning Undergraduate course

Student Supervision

Co-supervisor, Dec. 2016 - Zhedong Zheng, Ph.D. student in UTS

Co-supervisor, Aug. 2017 - Qingji Guan, Ph.D. student in UTS

Honors

Early Career R&D Award, D2D CRC, 2017

Outstanding PhD Thesis, Chinese Association for Artificial Intelligence, 2017

Travel Grant Award for Doctoral Consortium, CVPR 2015, ICCV 2015.

ArXiv paper “Person Re-identification Meets Image Search” is covered in “MIT Technology Review” as “The best of the rest from the Physics arXiv preprint server”.

Stars of Tomorrow, Microsoft Research Asia, 2015.

Promising Young Researchers, Department of Electronic Engineering, 2014, 2015.

Outstanding Graduate of Tsinghua University, 2010

Professional Service

Tutorial: “Representation Learning in Pedestrian Re-identification” in ECCV 2018.

Tutorial: “Person Re-identification: State of the Art and Future Trend” in ICPR 2018.

Area Chair, International Conference on Pattern Recognition (ICPR), 2018.

I have been serving as a regular reviewer/program committee member for highly selective journals/conferences, such as TPAMI, TIP, TMM, TCSVT, CVPR, ICCV, ECCV, and ACM Multimedia.

Research Grants

Successful External Grants as Chief Investigator

2017.04-2019.03, Chief Investigator: Deep Learning Smart Systems for Educational Management. CSIRO, Australia. AUD 460,000.

This project aims to develop intelligent deep learning methods for sentiment analysis, recognition and prediction in the application scenario of education management.

2017.07-2017.12, Chief Investigator: Video to Text Description. NSW Research Attraction and Acceleration Program. AUD 10,000

In this project, the aim is to build a video-to-text system and participate in the TRECVID 2017 challenge. We have submitted our results and are waiting for the outcomes.

2016.11-2017.10, Chief Investigator: UAV Flight Formation with Deep Matching. Austars Model Pty Ltd. AUD 60,000.

In this project, the aim is to address the UAV flight formation problem with image retrieval techniques. We have systematically experimented with different deep learning models and features, and a report is submitted.

2016.12-2017.11, Chief Investigator: Combining Hand-Crafted and Deeply Learned Features for Logo Detection over Large Scale Imaginary Data. D2D CRC Ltd. AUD 45,000.

This project aims at retrieving predefined logos from a large image database. Both hand-crafted and deep learning features are extensively tested and a report is submitted.

Successful Internal Grants as Chief Investigator

2017.01-2017.12, Chief Investigator: Large-Scale Person Search with Deep Learning. UTS Early Career Researcher Grant. AUD 15,096.

This UTS internal project aims to support early career researchers with exceptional track records. During the project life, three papers have been submitted.

2017.04-2017.12, Chief Investigator: Searching Person In-the-Wild using Deep Convolutional Neural Networks. Blue Sky Research Scheme. AUD 6,000

In this UTS internal project, the aim is to build deep learning architectures to learn pedestrian recognizers. Two papers have been submitted during the project life.

2016.05-2016.12, Chief Investigator: Searching Person In-the-Wild using Deep Convolutional Neural Networks. Blue Sky Research Scheme. AUD 8,000.

In this UTS internal project, we aim at simultaneously learning pedestrian detectors and recognizers. Two papers were submitted.

Selected Publications

As per 2 May 2018, 24 papers have been published in top venues such as TPAMI, IJCV, ICCV, CVPR, ECCV, IEEE Transactions on Image Processing, *etc.* Google Scholar Citations = 1,765, H-Index = 21.

Referred Journal Papers

1. Zhedong Zheng, **Liang Zheng**, and Yi Yang, “A discriminatively learned cnn embedding for person re-identification”, ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), Vol. 14, Issue 1, pp. 13, 2017.
2. Yuting Hu, **Liang Zheng**, Yi Yang, Yongfeng Huang, “Twitter100k: A Real-world Dataset for Weakly Supervised Cross-Media Retrieval”, IEEE Transactions on Multimedia (TMM), 2017, Vol. 20, Issue 4, pp. 927-938, 2018.
3. **Liang Zheng**, Yi Yang, Qi Tian, “SIFT Meets CNN: A Decade Survey of Instance Retrieval”, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2017, accepted.
4. Fuqing Zhu, Xiangwei Kong, **Liang Zheng**, Haiyan Fu, and Qi Tian, “Part-based Deep Hashing for Large-scale Person Re-identification”, IEEE Transactions on Image Processing, Vol. 26, Issue 10, pp. 4806 - 4817, 2017.
5. Zhong Zhang, Shuang Liu, Xing Mei, Baihua Xiao, and **Liang Zheng**, “Learning Completed Discriminative Local Features for Texture Classification”, Pattern Recognition, Vol. 67, pp. 263-275, 2017.
6. Ziqiong Liu, Shengjin Wang, **Liang Zheng**, and Qi Tian, “Robust ImageGraph: Rank-Level Feature Fusion for Image Search”, IEEE Transactions on Image Processing, Vol. 26, Issue 7, pp. 3128-3141, 2017.
7. **Liang Zheng**, Shengjin Wang, Jingdong Wang, and Qi Tian, “Accurate Image Search with Multi-Scale Contextual Evidences”, International Journal of Computer Vision (IJCV), pp. 1-13, 2016.
8. **Liang Zheng**, Shengjin Wang, and Qi Tian, “ \mathcal{L}_p -norm IDF for Scalable Image Retrieval”, IEEE Transactions on Image Processing, Vol. 23, Issue 8, pp. 3604-3617, 2014.

9. **Liang Zheng**, Shengjin Wang, and Qi Tian, “Coupled Binary Embedding for Large-scale Image Retrieval”, IEEE Transactions on Image Processing, Vol. 23, Issue 8, pp. 3368-3380, 2014.
10. **Liang Zheng**, Shengjin Wang, Ziqiong Liu, and Qi Tian, “Fast Image Retrieval: Query Pruning and Early Termination”, IEEE Transactions on Multimedia, Vol. 17, Issue 5, pp. 648-659, 2015.

Referred Conference Papers

1. Zhun Zhong, **Liang Zheng**, Zhedong Zheng, Shaozi Li, and Yi Yang, “Camera Style Adaptation for Person Re-identification”, International Conference on Computer Vision and Pattern Recognition (CVPR), 2018, accepted.
2. Weijian Deng, **Liang Zheng**, Guoliang Kang, Yi Yang, Qixiang Ye, and Jianbin Jiao, “Image-Image Domain Adaptation with Preserved Self-Similarity and Domain-Dissimilarity for Person Re-identification”, International Conference on Computer Vision and Pattern Recognition (CVPR), 2018, accepted.
3. Zhedong Zheng, **Liang Zheng**, and Yi Yang, “Unlabeled Samples Generated by GAN Improves the Person Re-identification Baseline in vitro”, International Conference on Computer Vision (ICCV) 2017, accepted.
4. Yifan Sun, **Liang Zheng**, Weijian Deng, and Shengjin Wang, “SVDNet for Pedestrian Retrieval”, International Conference on Computer Vision (ICCV) 2017, accepted.
5. Mang Ye, Jinhua Ma, **Liang Zheng**, Jiawei Li, Pongchi Yuen, “Label Graph Matching for Unsupervised Re-Identification”, International Conference on Computer Vision (ICCV) 2017, accepted.
6. **Liang Zheng**, Hengheng Zhang, Shaoyan Sun, Manmohan Chandraker, Yi Yang, and Qi Tian, “Person Re-identification in the Wild”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1367-1376, 2017.
7. Zhun Zhong, **Liang Zheng**, Donglin Cao, and Shaozi Li, “Re-ranking Person Re-identification with k-reciprocal Encoding”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1318-1327, 2017.
8. **Liang Zheng**, Zhi Bie, Yifan Sun, Jingdong Wang, Chi Su, Shengjin Wang, and Qi Tian, “MARS: A Video Benchmark for Large-Scale Person Re-identification”, European Conference on Computer Vision (ECCV), pp. 868-884, 2016.
9. Lingxi Xie*, **Liang Zheng***, Jingdong Wang, Alan Yuille, and Qi Tian, “InterActive: Inter-Layer Activeness Propagation”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 270-279, 2016. (* equal contribution)
10. **Liang Zheng**, Liyue Shen, Lu Tian, Shengjin Wang, Jingdong Wang, and Qi Tian, “Scalable Person Re-identification: A Benchmark”, International Conference on Computer Vision (ICCV), pp. 1116-1124, 2015.
11. **Liang Zheng**, Shengjin Wang, Lu Tian, Fei He, Ziqiong Liu, and Qi Tian, “Query-Adaptive Late Fusion for Image Search and Person Re-identification”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1741-1750, 2015.
12. **Liang Zheng**, Shengjin Wang, Ziqiong Liu, and Qi Tian, “Packing and Padding: Coupled Multi-index for Accurate Image Retrieval”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1939-1946, 2014.

13. **Liang Zheng**, Shengjin Wang, Wengang Zhou, and Qi Tian, “Bayes Merging of Multiple Vocabularies for Scalable Image Retrieval”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1955-1962, 2014.
14. **Liang Zheng**, Shengjin Wang, Ziqiong Liu, and Qi Tian, “ \mathcal{L}_p -norm IDF for Large Scale Image Search”, International Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1626-1633, 2013.

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